

What is claimed is:

1. A method of manufacturing a non-volatile semiconductor memory device,
comprising the steps of:

(a) preparing a semiconductor substrate;

5 (b) forming a plurality of gate structures on said semiconductor substrate,
each of said plurality of gate structures including a multi-layer structure having a first
insulation film, a floating gate electrode, a second insulation film and a control gate
electrode stacked in the order named, said plurality of gate structures including first
and second gate structures formed in first and second non-volatile memory cell
10 regions, respectively;

(c) forming a first drain region in said first non-volatile memory cell region
under a first drain formation condition by using said first gate structure as a mask;

(d) forming a second drain region in said second non-volatile memory cell
region under a second drain formation condition by using said second gate structure
15 as a mask;

(e) forming a first source region in said first non-volatile memory cell region
under a first source formation condition by using said first gate structure as a mask,
said first gate structure, said first drain region and said first source region constituting
a first memory cell transistor having a first operating characteristic; and

20 (f) forming a second source region in said second non-volatile memory cell
region under a second source formation condition by using said second gate structure
as a mask, said second gate structure, said second drain region and said second source
region constituting a second memory cell transistor having a second operating
characteristic.

25 2. The method according to claim 1, wherein:

said first memory cell transistor includes NOR-type memory cell transistor and said second memory cell transistor includes a DINOR-type memory cell transistor; and

said first and second drain formation conditions include conditions different from each other.

3. The method according to claim 2, where:

said first and second drain formation conditions includes a partially common formation condition at least partially common to said first and second drain formation conditions.

4. The method according to claim 2, wherein:

said first and second source formation conditions includes the same condition.